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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,844	10/10/2003	Satoru Miyamoto	60093-C CCD	2710

7590 06/13/2005

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EXAMINER	
RODEE, CHRISTOPHER D	
ART UNIT	PAPER NUMBER
1756	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/683,844	**Applicant(s)** MIYAMOTO ET AL.
	Examiner Christopher RoDee	**Art Unit** 1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 26-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 26-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 9-25, drawn to a non-elected invention, have been canceled.

Response to Amendment

The amendment to specification page 84 is objected to because the amendment contains underlined material, indicating new material, which was already present in the last Office action. Specifically, the passage "the residue on the sieve....not greater than 10 mg" was previously present yet is currently underlined. The amendment as presented is not in conformance with 37 CFR 1.121(a)(1)(ii). It appears from applicants' remarks that this was in advertent mistake and that the above noted subject matter was intended to be removed. See response page 12. A suitable amendment rewriting this paragraph is required in conformance with Rule 121 is required.

Specification

The amendment filed 7 June 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure was discussed in the last Office action, pages 2 and 3. That discussion remains pertinent to specification page 84 because the passage stating "the residue on the sieve....not greater than 10 mg" is still present in the specification. A suitable amendment rewriting this paragraph in keeping with applicants' remarks, noted above, is suggested.

Claim Rejections - 35 USC § 112

Claims 1-8 and 26-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims have been amended to remove any reference to the circularity of the toner particles or a residue of the toner particles noting the priority document incorporated by reference. The claims as presented permit any circularity of the toner or toner residue while the instant specification is specific that the toner has a circularity of from 0.93 to 0.97 (see spec. pp. 8, 17, 34-35, Table 1, and original claims). The newly cited product-by-process limitations concerning mixing conditions and the rotary agitator blade mixer appear to be directed to methods suitable to give the toner circularity specified as required in the instant specification (see pages 19-21). They do not appear to require the production of the circularity specified as required by the specification as filed.

The claims as currently presented include new matter because they permit a broader toner (i.e., toners with circularities below 0.93 and above 0.97) than described by the specification as filed. New matter is present.

The claims as recited are also without basis in the specification as filed as they permit any classified toner preparation material while the specification is specific that this material is the material formed by the process steps discussed in the paragraph spanning pages 15 and 16. The current claims include toner material prepared by other means, such as by a suspension polymerization process without crushing, pulverization, etc. This preparation material would have different sizes and shapes (e.g., smoother) than the preparation materials produced by crushing, etc. The claims as presented contain new matter because they define a broader invention than that disclosed.

Claim Rejections - 35 USC §§ 102 & 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 5, 7, 26-28, 30, and 32 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Karaki *et al.* in US Patent 5,912,101.

This reference was discussed in the last Office action. The claims have been amended to rephrase the presence of the residue amount and to include a specific limitation on the method step of how the toner is produced. The circularity referenced in the last Office action is specifically removed from the claims. However, it appears that the currently recited process conditions specifically relate to the circularity of the produced toner. See response pages 13-15. The specification teaches on page 17, "More specifically, the toner of the present invention comprises toner particles and a fluidity-imparting agent, and the toner particles have an average circularity of 0.93 to 0.97. A residue of the toner is an amount of 10 mg or less when 100 g of the toner is sieved with a 500-mesh sieve." On page 19, the specification states, "However, the inventors of the present invention have discovered that when a rotary agitator blade mixer is used in the above-mentioned step (5) of adding the fluidity-imparting agent to the classified toner preparation material and mixing the mixture to produce the toner which contains the fluidity-imparting agent, and too high a stress is applied to the mixture, a surface the toner particles is fused by the heat generated within the mixer, so that a spherical-particle-formation phenomenon that the toner particles are made spherical in shape takes place or the fluidity-imparting agent is embedded in the toner particles." And, on page 20 the specification teaches, "the inventors of the present invention have discovered that the following conditions under which the circularity of toner particles can be appropriately adjusted when the fluidity-imparting agent is added to and mixed with the classified toner using the rotary agitator blade rotary agitator blade: 50 ≤ (V x T)/M ≤ 200". It thus appears that the newly recited product-by-process limitations within the toner and toner supply container claims are directly related to the circularity of the produced toner. This relationship is further supported by the circularities obtained by the instant specification as seen in Table 1.

It appears that Karaki meets the newly presented product-by-process limitation because this process is shown by the specification to control the circularity of the toner and Kraki discloses a toner mixed with a fluidity agent having the same circularity as disclosed in the instant specification. For example, the examples have circularities of 0.94 (Example 3), 0.95 (Example 1) and 0.96 (Example 2). These measurements are taken after the fluidity agent (e.g., silica) is mixed with the toner particles. As also noted in the last Office action, the toner particles comprise a binder resin (col. 8, l. 66 – col. 9, l. 47), a colorant (col. 10, l. 15-22; col. 12, l. 54 – col. 13, l. 48), and a charge control agent (col. 15, l. 34-67), and an external fluidity agent such as hydrophobic silica of a size of 0.02 µm (Examples 1 & 2) and 0.015 µm (Example 3).

With respect to the amount of toner residue on the sieve, the particle size distributions of the exemplified toners indicate that nearly 100% of the toners have sizes below 25 µm (500 mesh - see spec. p. 18) and have an average particle size (50% cumulative) of below 9 µm noting the data in Tables 2-4. The examples' toners appear to inherently have the requisite residue of the instant claims because they have an amount of residue and toner particle circularity as required.

The rejection is still as seen as pertinent to the claims as amended.

Claims 1-8 and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karaki *et al.* in US Patent 5,912,101 in view of Inaba *et al.* in US Patent 5,827,632, further in view of *Handbook of Imaging Materials* to Diamond, p. 168-9, 178-81.

Karaki was discussed above. This rejection is applied if the primary reference does not inherently possess the claimed residue value. Additionally, Karaki does not disclose the claimed combination of fluidity additives in pending claims 4 and 29, the additives of claims 6 and 31, and the amount of toner specified in claims 8 and 33.

Inaba discloses a combination of fluidity additives in toner compositions where the toner has sizes of from 1 to 9 μm. These additives improve transferability of the toner to a transfer-receiving material or via an intermediate transfer material (col. 1, l. 64 - col. 2, l. 6). Useful fluidity additive packages include hydrophobicized titania having a size of 43 to 49 nm and hydrophobicized silica having a size of 31 to 43 nm (Table 1). Specifically note the compositions of Examples 2-4 where 1.2 wt. % of titania and 0.8 wt. % of silica is used. Toners thus prepared are mixed with carrier particles to form a developer.

Diamond discloses the background of the art noting the conventional use of surface additives (§ 4.2.4) to increase fluidity (i.e., flow properties) of the toner. The text also discusses the use of charge control agents to optimize the charge level and rate of charging for toners (§ 4.2.3). Diamond also states that it is a well known desire in the art to obtain a the requisite charge as quickly as possible (p. 180, § 4.3.4, ¶3) and to obtain as narrow a particle size distribution as possible to reduce dirt in the machine environment (p. 178, § 4.3.3). Diamond notes the use of cyan, magenta, and yellow pigments to form a full color toner image (§ 4.2.2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the fluidity agents of Inaba to Karaki's toner because Karaki discloses small toner particle sizes having hydrophobic silica additives such as seen in the examples and Inaba states that such small toner sizes have problems with transfer to a final or intermediate receiver. Inaba advises the artisan that through the use of fluidity agents as disclosed and exemplified these problems in small toners can be reduced. Thus the skilled artisan, based upon the art as a whole, has ample reason to incorporate the additives of Inaba into the toner of Karaki to obtain the benefits of transferability and cleanability disclosed by Inaba for small sized toners. Diamond supports the inclusion of these components in Karaki by demonstrating that fluidity additives are well known in the toner art. The artisan would have found it obvious to optimize the toner's particle size distribution to as narrow a value as possible because this is known in the art to reduce dirt and optimize copy quality (Diamond, *supra.;* pending claim 8). Such a narrow size distribution would motivate the artisan to minimize the "residue" amount if this value is not inherent to Karaki's composition. The artisan would also have found it obvious to optimize the toner's ability to obtain a quick, stable charge of necessary magnitude (i.e., charge rise-up; pending claim 3) because Diamond teaches that this is important to ensure that the toner is properly charged when it reaches the photoreceptor.

Conclusion

The previous ground of rejection over Ota in view of certain secondary references is withdrawn based on the claim amendments and a review of the art which shows that the above applied art is more pertinent to the invention as currently claimed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
7 June 2005

CHRISTOPHER RODEE
PRIMARY EXAMINER